C&D TECHNOLOGIES, INC.
Power Solutions

SAFETY DATA SHEET – 14-361

1. IDENTIFICATION

REVISION DATE: 2/20/2020

PRODUCT IDENTITY: Cured Unformed Lead Acid Battery Plates	**Product Use**: Electric Storage Battery **Manufacturer/Supplier:** C&D Technologies, Inc. **Address:** C&D Technologies, Inc. 1400 Union Meeting Road Blue Bell, PA 19422-0858 Web Sites: www.cdtechno.com North America 24 Hour Emergency Telephone: (CHEM TEL) 1-800-255-3924 International 24 Hour Emergency Telephone: (CHEM TEL) 1-813-248-0585 C&D Technologies Inc. Telephone: 215-619-2700

2. GHS HAZARDS IDENTIFICATION

Health	Environmental	Physical
Acute Toxicity (Oral/Dermal/Inhalation) - Category 4 Skin Corrosion/Irritation - Category 1A Eye Damage - Category 1 Reproductive - Category 1A Carcinogenicity (lead) - Category 1B Carcinogenicity (arsenic) - Category 1A Carcinogenicity (acid mist) – Category 1A Specific Target Organ Toxicity (repeated exposure) - Category 2	Aquatic Chronic 1 Aquatic Acute 1	Explosive Chemical, Division 1.3

GHS Label:

Health	Environmental	Physical
		
Hazard Statements **DANGER!** Causes severe skin burns and eye damage. Causes serious eye damage.	***Precautionary Statements*** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face	

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May damage fertility or the unborn child if ingested or inhaled. Acute: most will pass through body unabsorbed: at very high exposures, may cause lead intoxication with symptoms of nausea and abdominal cramps. Chronic: Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure: may also cause anemia, malaise, tremors, gastritis, and liver changes. May cause cancer if ingested or inhaled.	protection. Avoid breathing dust or fumes. Use only outdoors or in a well-ventilated area. Causes skin irritation, serious eye damage. Irritating to eyes, respiratory system, and skin.

3. *COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:
Lead , Lead Compounds	7439-92-1	5 - 10
Lead Oxide	1317-36-8	5 - 10
Tribasic Lead Sulfate BG	12201-17-4	40 - 46

4. FIRST AID MEASURES

INHALATION:
Remove from exposure, gargle, wash nose and lips; consult physician.

INGESTION:
Consult physician immediately.

SKIN:
Wash immediately with soap and water.

EYES:
Wash immediately with water and get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Oxygen Index = N/A
Flammable Limits: N/A
Extinguishing media: Class ABC, Carbon dioxide, dry chemicals, or water spray.

Fire Fighting Procedures:
Wear protective clothing and positive pressure, self-contained breathing apparatus.

Hazardous Combustion Products:

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Highly toxic lead oxide fumes may evolve from heated metal.

6: ACCIDENTAL RELEASE MEASURES
Ventilate.

7. HANDLING AND STORAGE
Handling and Storage:
Store in a cool, dry and ventilated area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION
Exposure Limits (mg/m^3) Note: N.E. = Not Established

INGREDIENTS (Chemical/Common Names):	OSHA PEL	ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Lead, Lead Compounds	0.05	0.05	0.05	0.05	0.05	0.15 (b)
Lead Oxide	0.05	0.05	0.05	0.05	0.05	0.15 (b)
Tribasic Lead Sulfate BG	0.05	0.05	0.05	0.05	0.05	0.15 (b)

(b) As inhalable aerosol

Engineering Controls (Ventilation):
Store and handle in well-ventilated area – a system of local ventilation is recommended to keep employee exposures below the airborne Permissible Exposure Limits..

Respiratory Protection (NIOSH/MSHA approved):
None required under normal conditions. When concentrations of airborne lead fumes are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

Skin Protection:
Nitrile gloves are recommended during handling and processing.

Eye Protection:
Use safety glasses or goggles.

Other Protection:
Wear impervious protective clothing, including long sleeved shirts, nitrile gloves, boots, lab coates, apron, coveralls or work uniform if adverse conditions or employee exposures warrant.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties Listed Below are for Electrolyte:			
Boiling Point:	**N/A**	Specific Gravity (H2O = 1):	**N/A**
Melting Point:	**N/A**	Vapor Pressure (mm Hg):	**N/A**
Solubility in Water:	**N/A**	Vapor Density (AIR = 1):	**N/A**
Evaporation Rate:	**N/A**	% Volatile by Weight:	**N/A**

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Appearance and Odor: **Manufactured article; no apparent odor.**

10. STABILITY AND REACTIVITY

Stability: Stable _X_ Unstable ___

This product is stable under normal conditions at ambient temperature.

Conditions to Avoid: None.

Incompatibilities: (materials to avoid)

Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.

Hazardous Decomposition Products: N/A

Hazardous Polymerization:

Will not occur

11. TOXICOLOGICAL INFORMATION

Routes of Entry:

Hazardous exposure can occur only when product is heated, oxidized or otherwise processed or damaged to create dust, vapor or fume. The presence of nascent hydrogen may generate highly toxic arsine gas.

Inhalation:

Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

Ingestion:

Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.

Skin Contact:

Not absorbed through the skin.

Eye Contact:

May cause eye irritation.

Effects of Overexposure - Acute:

Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability.

Effects of Overexposure - Chronic:

Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in males and females. Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 μg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

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Carcinogenicity:
Lead is listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.

Medical Conditions Generally Aggravated by Exposure:
Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.

Acute Toxicity:
Inhalation LD50:
Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)

Oral LD50:
Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)

Additional Health Data:
All heavy metals, including the hazardous ingredients in this product, are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate precautions such as ventilation and respiratory protection covered in Section 8. Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, smoking or leaving the work site. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home or laundered with personal non-contaminated clothing. This product is intended for industrial use only and should be isolated from children and their environment.

The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

12. ECOLOGICAL INFORMATION

Environmental Fate: lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead.

Environmental Toxicity: Aquatic Toxicity:
48 hr LC50 (modeled for aquatic invertebrates): <1 mg/L, based on lead bullion

Additional Information
· No known effects on stratospheric ozone depletion.
· Volatile organic compounds: 0% (by Volume)
· Water Endangering Class (WGK): NA

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13. DISPOSAL CONSIDERATIONS (UNITED STATES)

Send to secondary lead smelter for recycling. Spent lead-acid batteries are not regulated as hazardous waste when the requirements of 40 CFR Section 266.80 are met. Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity) and D008 (lead).

Following local, State/Provincial, and Federal/National regulations applicable to end-of-life characteristics will be the responsibility of the end-user.

14. TRANSPORT INFORMATION

Not applicable.

15. REGULATORY INFORMATION

EPCRA Sections 302, 304, 311 & 312

The lead used in lead-acid batteries does not qualify for any OSHA or EPCRA exemptions. Lead is not an EHS, and the following table outlines the applicable EPCRA Sections and their respective thresholds for **lead**:

EPCRA Sections - Lead	***Thresholds***
311 - MSDS Reporting	≥ 10,000 lbs.
312 - Chemical Inventory Reporting (i.e. Tier II)	≥ 10,000 lbs.

EPCRA Section 313

The reporting of lead in lead-acid batteries used in cars, trucks, most cranes, forklifts, locomotive engines, and aircraft for the purposes of EPCRA Section 313 is not required. Lead-acid batteries used for these purposes are exempt for Section 313 reporting per the "Motor Vehicle Exemption." See page B-22 of the *U.S. EPA Guidance Document for Lead and Lead Compound Reporting under EPCRA Section 313* for additional information of this exemption.

TSCA:

TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b (40 CFR Part 707.60(b)) No notice of export will be required for articles, except PCB articles, unless the Agency so requires in the context of individual section 5, 6, or 7 actions.

TSCA Section 13 (40 CFR Part 707.20): No import certification required (EPA 305-B-99-001, June 1999, Introduction to the Chemical Import Requirements of the Toxic Substances Control Act, Section IV.A)

RCRA: Spent Lead Acid Batteries are subject to streamlined handling requirements when managed in compliance with 40 CFR section 266.80 or 40 CFR part 273.

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STATE REGULATIONS (US):
***Proposition 65 Warning**
Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

*Battery companies not party to the 1999 consent judgment with Mateel Environmental Justice Foundation should include a Proposition 65 Warning that complies with the current version of Proposition 65.

16. OTHER INFORMATION

NFPA Hazard Rating for sulfuric acid:
Flammability (Red) = 0
Health (Blue) = 2
Reactivity (Yellow) = 1
X = Acid
Sulfuric acid is water-reactive if concentrated.

MSDS Preparation/Review Date: 2/20/2020 Revision: 3
Prepared by: W.E. Kozlowski – Director EHS